



Teacher Quality Partnership
Novice Teacher Study
Technical Report NTS 07-01
Research Brief
2004-2008

Kathryn Kinnucan-Welsch
Cindy Currell
Beth Shervey
University of Dayton

Diana B. Erchick
Sandra A. Stroot
The Ohio State University

Martha S. Hendricks
Wilmington College

Sonja Smith
Mount Vernon Nazarene University

Suzanne Franco
Wright State University

December, 2007

TABLE OF CONTENTS

THE TEACHER QUALITY PARTNERSHIP RESEARCH.....	1
THE NOVICE TEACHER STUDY	2
Design of the NTS 2004–08	3
Methodology of the NTS	5
<i>Participants</i>	5
<i>Data Collection and Analysis</i>	6
<i>Data Management</i>	14
<i>Dissemination</i>	16
REFLECTIONS ON THE METHODOLOGICAL ISSUES AND CHALLENGES.....	16
Recruiting.....	17
Quality of Data.....	17
Creating Opportunities for Converging Evidence	18

Copies of the Teacher Quality Partnership *Novice Teacher Study Technical Report NTS 07-01: Research Brief 2004-2008* can be obtained at <http://www.tqpohio.org>.

Please cite *Technical Report NTS 07-01* as follows:

Kinnucan-Welsch, K., Hendricks, M. S., Erchick, D. B., Smith, S., Stroot, S., Shervey, B., & Currell, C. (2007, November). *Novice teacher study technical report NTS 07-01: Research brief 2004–2008*. Cincinnati, OH: Teacher Quality Partnership.

Research conducted by the Teacher Quality Partnership is supported in part by the Proctor & Gamble Fund, Carnegie Corp. of New York, The Joyce Foundation, the U.S. Department of Education (FIPSE), the Ohio Department of Education, the Ohio Board of Regents, the George Gund Foundation, the Martha Holden Jennings Foundation, The Ohio State University, the University of Dayton, the University of Cincinnati, Mount Vernon Nazarene University, Bank One, the Student Loan Fund, and the American Association of Colleges for Teacher Education.

The purpose of this technical report is to summarize the research methodology of the Novice Teacher Study (NTS) strand of the Teacher Quality Partnership (TQP) research. The report is divided into three sections: a brief description of TQP; a detailed description of the NTS research design and methodology; and concluding remarks related to the challenges of conducting field research as part of a large-scale research initiative. In preparing this technical report, we drew from artifacts documenting the research processes; from regional and national presentations; and from materials distributed to external audiences. Preliminary planning for the NTS began in 2004, but this report focuses on 2005–06 (pilot year) and 2006–08 (years 1 and 2)¹.

THE TEACHER QUALITY PARTNERSHIP RESEARCH

The NTS is one strand of related research under the umbrella of the Ohio Teacher Quality Partnership (formerly the Ohio Partnership of Accountability). Lasley, Siedentop, and Yinger (2006) describe the beginnings of TQP:

The Ohio TQP has embarked on a series of research studies to learn more about the characteristics of effective teachers and to identify the patterns of teacher performance in both novice and experienced teachers that commingle to enhance student achievement at different grade levels, in different subjects, and with different types of students. (p. 16)

TQP encompasses a consortium of all 50 teacher preparation institutions in Ohio and partnerships with the Ohio Department of Education and the Ohio Board of Regents. A board of directors providing leadership for TQP includes education deans from the University of Cincinnati, Cleveland State University, the University of Dayton, and The Ohio State University. An external audit panel comprising national experts in educational research provides critical feedback to each strand of the TQP research. An Ohio advisory board with representatives from all educational stakeholder groups in Ohio monitors project goals and planning and will become the forum for exploring the policy implications of the research findings.

Yinger (2005) summarized the TQP research in a document prepared for external funders: “The focus of the TQP project is to better understand the pathways and influences related to the teacher and to his or her ultimate influence on students’ academic performance” (p. 8). To establish the connection between teacher influence and student academic performance, the project has incorporated a value-added modeling (VAM) measure of teacher effect on student learning. References to high value-added teachers (HVATs)

¹ The Novice Teacher Study evolved with the other field study strand of TQP, the Experienced Teacher Study. Key personnel contributing to the NTS include Dr. Katie Kinnucan-Welsch, co-principal investigator, NTS 2005–06 and principal investigator, 2006 –current; Dr. James Rowley, co-principal investigator of the NTS 2004–05; Dr. Patricia Hart, co-principal investigator of the NTS 2004–06; the principal investigator and co-principal investigator of the ExTS, Dr. Sandra Stroot and Dr. Diana Erchick; Dr. Sonja Smith, TQP project director 2004–07, Dr. Martha Hendricks, current TQP project director, and Dr. Robert Yinger, TQP research director.

represent the VAM component of the research. The TQP core research questions outlined in TQP documents are as follows:

1. How do variables of teacher background, initial preparation, and ongoing professional learning relate to teacher practices, student learning, and achievement?
2. How do specific elements of teacher preparation and aspects of school contexts impact novice teachers' development during their first 3 years of teaching?
3. Do HVATs have characteristics, instructional practices, and understandings that differ from those of other teachers along the value-added continuum?
4. What specific school contexts are associated with high value-added novice and experienced teachers?

The five research strands of TQP originally included (a) Graduate Survey Study, in which data are collected from preservice candidates and in subsequent years, from inservice teachers, about their perceptions of their preservice preparation programs and about their experiences as novice teachers in their school settings; (b) Alternative Licensure Study, which examines the alternative licensure pathway in Ohio; (c) NTS, which examines the practices, characteristics, and professional learning contexts of novice teachers as related to P–12 student learning; (d) Experienced Teacher Study (ExTS), which examines the practices, characteristics, and professional learning contexts of high value-adding experienced teachers; and (e) Large-Scale Longitudinal Study (formerly the Structural Equation Modeling Study), which examines the interaction between and among variables including teacher preparation program characteristics, instructional practices, school context, and P–12 student learning. As of fall 2007, the Alternative Licensure Study strand was completed.

Examining the effects of teacher preparation in light of impact on P–12 student learning is complex. Each study has incorporated a research design, including questions and supporting methodology. The data collection measures representing the constellation of variables for TQP are found in Figure 1. Note how the key variables of teacher preparation (teacher education program features), teacher characteristics (teacher candidate learning), and instructional practices relate to pupil learning. Note also the data sources connected with each variable. How the NTS contributes to the chain of evidence and policy recommendations is described in the next section.

THE NOVICE TEACHER STUDY

The purpose of the NTS strand of the TQP research is to examine the instructional practices, knowledge and dispositions, and school contexts of HVATs in Ohio schools. A second purpose is to examine the professional learning experiences that have contributed to this effectiveness.

In the first section, we describe the design of the NTS and how that design evolved from 2004 to 2007. At the end of the first section, we present the research questions guiding

the NTS. The second section includes a detailed description of the methodology, including initial direction for the NTS (2004–05), redirection for the pilot year (2005–06), and

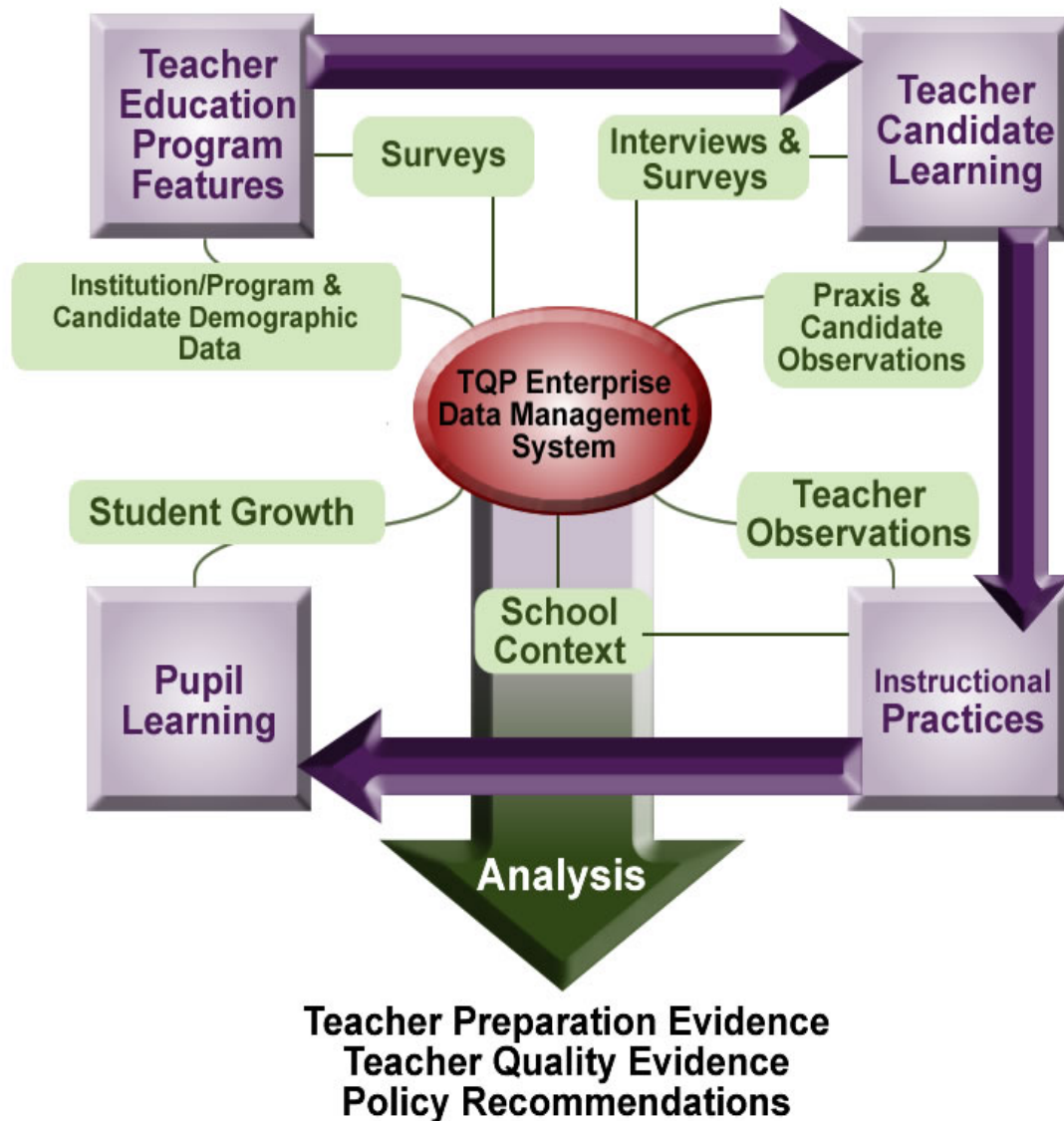


Figure 1. Teacher Quality Partnership Evidence Chain.

changes made in year 1 (2006–07) based on the pilot. Year 2 (2007–08) followed the same methodology as year 1. The third section briefly comments on issues and challenges related to the methodology.

Design of the NTS 2004–08

The NTS research began in 2004. The initial purpose of the NTS was to create profiles of practice of beginning teachers. NTS principal investigators pursued development

of a field studies code book extrapolated from repeated behaviors documented in extensive field notes by a team of researchers. While observing randomly selected novice and experienced teachers, the researchers attempted to capture everything they saw and heard in these diverse classrooms. From those qualitative notes, principal investigators identified categories of teacher behaviors, student behaviors, classroom environments, and available resources. The PIs codified the data into a code book on which the researchers were then trained, though anything seen or heard that was not in the code book was also to be recorded for potential additions to the code book. Using qualitative research methodology, the themes and supporting data were to emerge from the evidence.

A shortcoming of these efforts was that it lacked a connection to other studies of effective teachers and entailed the time-intensive task of collecting data, revising the code book, training the researchers, and repeating the cycle until little or no new codes were needed to reflect classroom evidence. This process required substantial resources to compensate researchers, teachers, and support staff. These issues were resolved when TQP leadership became aware of a series of research studies being conducted by Pianta (2004) and colleagues using a theoretically and empirically grounded observation instrument, the Classroom Assessment Scoring System (CLASS).

In 2005, the NTS aligned more closely with the Structural Equation Modeling Study (now the Large-Scale Longitudinal Study); indeed, the NTS participants are considered a subset of the LSLs, in that the relationships between and among variables that are being established for the LSLs are also being established for the NTS. What distinguishes the NTS from the LSLs is that qualitative data are being collected to provide descriptive detail of the characteristics, instructional practices, and professional learning contexts of novice teachers. As stated in the proposal distributed to external funders:

The Novice Teacher Study will follow a cohort of approximately 50 new teachers for 3 years in order to assess the various contributions of pre-service education, induction and mentoring, and school climate and leadership to teaching performance and student learning. Attention will also be paid to pathways and contributors to professional development and learning. This study will seek to develop rich qualitative and quantitative descriptions of the specific characteristics of novices' teaching contexts and practices so that once these teachers' value-added status is determined we can better understand the contributions to high student growth in novice teachers' classrooms. Data collection for this study begins September 2005. (Yinger, 2005, p. 6)

The following research questions were articulated to guide the NTS:

1. What instructional practices, knowledge and dispositions, and school contexts are characteristic of HVATs in Ohio schools?
2. What professional learning experiences have contributed to this effectiveness?

The specific NTS research questions are:

1. Do teachers who prove to be HVATs have characteristics different from those of other teachers along the value-added continuum (e.g., identity as teacher, dispositions, vision of teaching)?
2. Do HVATs have instructional practices that differ significantly from those of other teachers along the value-added continuum?
3. Do HVATs have different understandings regarding the following:
 - a. Curriculum?
 - b. Subject matter content?
 - c. Assessment?
 - d. Student diversity?
 - e. Instructional contexts?
 - f. Differentiation?
4. Do HVATs have a different orientation to teacher-student relationships (e.g., classroom climate, emotional support)?
5. What specific dispositions and conceptual tools are associated with the professional learning of HVATs?
6. What specific forms of professional development tend to be associated with high value-added teaching?
7. What particular school contexts tend to be associated with the professional learning of HVATs?

In the next section, we describe the methodology of the NTS as it evolved from 2005 to 2008 to address the NTS research questions.

Methodology of the NTS

In this section, we describe the methodology of the NTS from 2005 to 2008. Sections include the participants, data collection, data analysis, and dissemination.

Participants

NTS participants in the 2005–06 pilot year were third-grade and eighth-grade mathematics teachers who volunteered from Ohio school districts that were members of the SOAR (Schools' Online Assessment Reports) consortium. The SOAR School Improvement Collaborative is a Battelle for Kids initiative in which a variation of a private enterprise (SAS[®] EVAAS[®]) value-added analysis is applied to student performance data provided by participating school districts. The centerpiece of the project is a secure Web-based database that school districts can use to view district-, building-, grade-, and student-level performance data. Having access to student performance data was essential since establishing a relationship among teacher preparation, teacher variables, and student performance is the cornerstone of both the NTS and LSLs. In 2005–06, the pilot year, the NTS recruited 3 novice teacher participants, and the ExTS recruited 11 teacher participants. The primary purpose of the pilot year was to refine data collection, and the changes are described in the methodology section.

Four factors resulted in significant changes in the recruitment plan for the NTS and LSLs strands for year 1, 2006–07. First, SOAR districts contacted were typically eager to involve their novice teachers in TQP, but they rarely had new hires in grades and subjects we

had identified for the research. Secondly, SOAR districts where novice teachers were available tended to be high-performing districts. While that did not necessarily mean all novice teachers would prove to be or to become HVATs, it might have been more likely. This could bias the participants toward higher VAM scores, which could impact TQP results. Third, the Ohio Department of Education agreed to run a report for TQP from a database it maintains with all teacher assignment data. Using this report, the NTS researchers narrowed the search for eligible novice teachers to the districts where they had been hired in grade levels and subject areas needed for TQP research. Finally, TQP was supporting the SOAR recruiting efforts at a high level, whereas the ODE database was made available without cost to the project.

Identifying a pool of novice teachers for the study was not the TQP team's only challenge prior to year 1 of the study. In the pilot year, we had identified teacher participants from grades 3 and 8 in reading and mathematics. This decision was made based on student performance data that were available to calculate value-added measures at the classroom level. The State of Ohio, however, changed its statewide assessment and accountability system to be in alignment with federal requirements under No Child Left Behind legislation. The statewide assessment system for reading and mathematics spans grades 3 through 8, and therefore value-added designations would not be available for teachers in grade 3. The result of this decision was, instead of recruiting from grades 3 and 8, we recruited teachers of reading, grades 4 through 6, and mathematics, grades 4 through 8.

School district superintendents have supported our efforts to recruit by granting access to the human resources offices that in turn supply names of novice teachers. Building principals have also supported our efforts either by supplying names of novice teachers or by relaying the invitation to novice teachers in their buildings. This process is labor-intensive and is confounded by the fact that entry-year teacher designation in a district may mean that a teacher is new to the district but is not a novice teacher.

In year 1 (2006–07), we recruited 21 novice teachers and invited them to participate for 3 years. In November of year 2 (2007–08), we had 23 teachers, 15 of whom returned from year 1. The original research plan called for 50 novice teachers, but due to budget constraints, we recruited only 23.

Once a potential participant is identified, he or she is contacted by the NTS project office with an invitation to participate. NTS field researchers follow up with a building visit, and if the teacher agrees to participate, he or she is given informed consent information outlining the study and measures to ensure confidentiality and human subjects' protection. Before data collection begins, teachers are asked to sign two consent forms, one for the NTS (Appendix A) and one for the LSLS (Appendix B).

Data Collection and Analysis

In this section, we briefly describe the data collection from the pilot year and how we refined the data collection based on what we learned from the pilot year. Next we turn to the data collection system for the NTS for Year 1, and include a chart in which the research questions are aligned with current data collection. We then provide an overview of the data collection across an entire year by each of the six data collection cycles, followed by a description of each instrument. We include a detailed description of the processes of data management, and conclude with a description of data analysis.

Data Collection Pilot Year (2005–06)

The instrumentation during the pilot year included:

1. TQP Preservice Teacher Survey and TQP Inservice Teacher Survey (the instruments used in the Graduate Survey Study)
2. School Physical Environment Checklist
3. Classroom Physical Environment Checklist
4. Observation of instruction using the CLASS observation instrument (Pianta, La Paro, & Hamre, 2006a, 2006b)
5. Pre- and post-observation interviews
6. Teacher and student work samples
7. Classroom time analysis
8. Photographs of the classroom environment.

Data collection measures we intended to collect, but did not, included pedagogical content knowledge of reading and mathematics; professional learning; and teacher working conditions.

After the pilot year, the TQP field studies research team reviewed the data from the 11 experienced teachers and 3 novice teachers and made decisions about the data collection for year 1 based on importance of data collection to research question; budget; and practical issues related to time and resources required for analysis. The following data sources were eliminated for year 1 of the study:

1. Classroom Physical Environment Checklist
2. Classroom time analysis
3. Classroom photographs
4. Teacher and student work samples
5. Pre-observation interview

Plans to develop a teacher working conditions survey and the professional learning survey were halted. The Content Knowledge for Mathematics Teaching Survey was developed for use in year 1.

Data collection years 1 and 2 (2006–08)

Data sources for years 1 and 2 of the NTS (2006–08) were:

1. School Physical Environment Checklist
2. CLASS observation
3. Post-observation interview
4. TQP Preservice Teacher Survey
5. TQP Inservice Teacher Survey
6. Content Knowledge for Mathematics Teaching Survey

The alignment of research questions and data sources is displayed in Figure 2. Each data source is described in detail in this section.

Data collection in the NTS research year is divided into six cycles, or visits. Each cycle is displayed in Appendix C, incorporating all data collection occurring in the respective cycle. Cycle 1 occurs at the beginning of the school year; it sets the stage for the study in which the field researcher establishes the rapport with the teacher participant. The researcher also takes note of the physical environment of the school. Cycles 2 through 5 are scheduled from early October to April. During these visits, the field researcher observes the teacher according to CLASS protocol and records a post-observation interview. Cycle 6 occurs

sometime in the last two weeks school is in session. Cycle 6 does not include an observation, but the field researcher conducts an unrecorded exit interview. The TQP Preservice Teacher Survey and TQP Inservice Teacher Survey and the Content Knowledge for Mathematics Teaching Survey are completed in designated cycles.

Research Questions	Data Sources
Teacher characteristics	TQP Preservice Teacher Survey TQP Inservice Teacher Survey
Teacher practices	CLASS observations Post-observation interviews
Teacher understandings	Post-observation interviews Content Knowledge for Mathematics Teaching Survey TQP Inservice Teacher Survey
Teacher-student relationships	CLASS observations Post-observation interviews
Teacher professional learning	Post-observation interviews TQP Preservice Teacher Survey TQP Inservice Teacher Survey
Professional development	TQP Inservice Teacher Survey Post-observation interviews
School context	TQP Inservice Teacher Survey School Physical Environment Checklist

Figure 2. Alignment of research questions and data collection, NTS years 1 and 2 (2006–08)

Description of Data Sources

Teacher profile. During the cycle 1 visit, each teacher, including those novice teachers returning to the study for years 2 and 3, completes the teacher profile (Appendix D). Profile information consists of descriptive data used to record teacher contact information, verify participation eligibility, indicate completion of the TQP Preservice Teacher Survey, and provide educational and licensure information. The teacher profile also records information needed to process teacher stipend payment at completion of cycle 6.

School Physical Environment Checklist. The school physical environment checklist (Appendix E), completed by the researcher during cycle 1, documents the experience of a new visitor to a participating teacher's school. Adapted from the Fairfax (Virginia) County Public Schools' Parenting Education Center (PEC) Welcoming Atmosphere Walk-Through Checklist, the checklist is divided into three parts: the physical environment; the welcoming

school staff; and written material. The researcher also includes a summary of her impression of the school.

TQP Preservice Teacher Survey. The TQP Preservice Teacher Survey is administered to teacher candidates at the end of their teacher preparation program as part of the Graduate Survey Study strand of TQP. The Graduate Survey Study strand personnel check their database to confirm that a novice teacher participant completed the survey. If no data are located for the participant, he or she completes the survey at the beginning of the year.

The instrument includes the following:

- Subscales pertaining to perceptions of the teacher preparation program: (a) coherence within program, (b) program quality, (c) field experiences, (d) faculty characteristics, and (e) cooperating teacher characteristics.
- Subscales pertaining to professional knowledge and skills include: (a) motivation, (b) curriculum, (c) special education, (d) diversity, (e) literacy, (f) mathematics, (g) assessment.
- Subscales pertaining to teacher efficacy include: (a) classroom management, (b) student engagement, (c) instructional strategies, (d) general teacher efficacy, and (e) personal teacher efficacy.
- Subscales pertaining to concerns about teaching include: (a) self concerns, (b) task concerns, and (c) impact concerns.

TQP Inservice Teacher Survey. The TQP Inservice Teacher Survey is administered to novice teachers in Ohio in their first year of teaching and in subsequent years according to the Graduate Survey Study timeline. Graduate Survey Study participants may complete the survey online, but the NTS team decided to ask participants to complete paper copies to ensure complete data collection. The survey is distributed in cycle 5 and collected in cycle 6.

The instrument includes the following:

- Subscales pertaining to perceptions of the teacher preparation program: coherence within program, and program quality.
- Subscales pertaining to professional knowledge and skills include: (a) motivation, (b) curriculum, (c) special education, (d) diversity, (e) literacy, (f) mathematics, and (g) assessment.
- Subscales pertaining to teacher efficacy include: (a) classroom management, (b) student engagement, (c) instructional strategies, (d) general teacher efficacy, and (e) personal teacher efficacy.
- Subscales pertaining to instructional orientation–literacy and instructional orientation–mathematics include: (a) orientation, (b) activities, (c) materials, and (d) knowledge.
- Subscales pertaining to teaching concerns include: (a) self concerns, (b) task concerns, and (c) impact concerns.
- Subscales pertaining to school context include: (a) collective efficacy, (b) collegial leadership, (c) institutional vulnerability, (d) achievement press, (e) teacher behavior, (f) trust in principal, (g) trust in colleagues, and (h) trust in clients.
- Subscales pertaining to working conditions include school characteristics and school materials.

- Subscales pertaining to professional development include: (a) professional quality, (b) professional development impact, and (c) quality of mentoring.

Classroom Assessment Scoring System (CLASS). The Classroom Assessment Scoring System (CLASS) is an observational instrument developed to assess classroom quality for research and professional development purposes. The CLASS was developed from scales used in large-scale classroom observation studies (NICHD Early Child Care Research Network, 2002; Pianta, La Paro, & Hamre, 2006a, 2006b), and is “based on developmental theory and research suggesting that interactions between students and adults are the primary mechanism of student development and learning” (Pianta, et al. 2006a, p. 1).

According to the developers of the CLASS, interactions between teachers and students can be grouped into four domains: emotional support, classroom organization, instructional support, and student outcomes. Within each of these domains are specific dimensions measured by the CLASS.

Originally created for use in preschool through the third grade, the CLASS has been validated in over 3,000 classrooms from pre-kindergarten through fifth grade. It has also been adapted for middle/secondary school and is currently undergoing a similar validation process. The use of CLASS across different levels creates, according to Pianta et al. (2006a), a “common metric and language for discussion, thereby addressing the problems with grade-to-grade transition and the need for coherence” (p. 2). Given that novice teachers participate for 3 years, the CLASS approach is particularly relevant because it presents a standardized method of organizing classroom observations that tracks teacher performance over time (Theroux, 2007).

Figure 3 displays the CLASS domains and dimensions to reflect the ways in which the domains manifest themselves in both elementary and secondary classrooms (Pianta et al., 2006a, 2006b). Dimensions with no designation are common to both elementary and middle/secondary versions.

The CLASS observation record—elementary and secondary (Appendices F and G) is used during cycles 2 through 5. The elementary form is used when observing reading, grades 4 through 6, and mathematics, grades 4 and 5. The secondary form is used when observing mathematics, grades 6 through 8. Each researcher is initially trained according to CLASS observation protocols by a qualified CLASS trainer and must score within 80% of agreement with a reliability training protocol to qualify as a researcher. Each year of the project, we conduct reliability sessions, and again, researchers must score within 80% of agreement on the reliability protocol.

During a CLASS observation, the NTS field researcher observes 20-minute segments of a lesson, making note of evidence related to each dimension. The next 10 minutes are spent assigning a score of 1 to 7 to each dimension. A low rating is indicated by a score of 1 or 2; a mid rating is indicated by a score of 3, 4, or 5; and a high rating is indicated by a score of 6 or 7. The researcher repeats this 20/10 cycle three to four times in one visit. At the end of a research year, we have obtained 12 to 16 scores for each dimension for each novice teacher participant.

Post-observation interview. The post-observation interview (Appendix H) is conducted after the CLASS observation in cycles 2 through 5 and follows the same protocol for each cycle. The interview is a semi-structured recorded interview that prompts the teacher to consider a lesson taught during a CLASS observation segment. Specifically, the teacher is

asked about his or her thoughts on the lesson; the student response(s) to the lesson; preparation for the lesson; and decisions made during the lesson, including use of resources. The questions are consistent across all interviews, but the researcher may follow a participant response with secondary questions and probes, seeking elaboration when necessary.

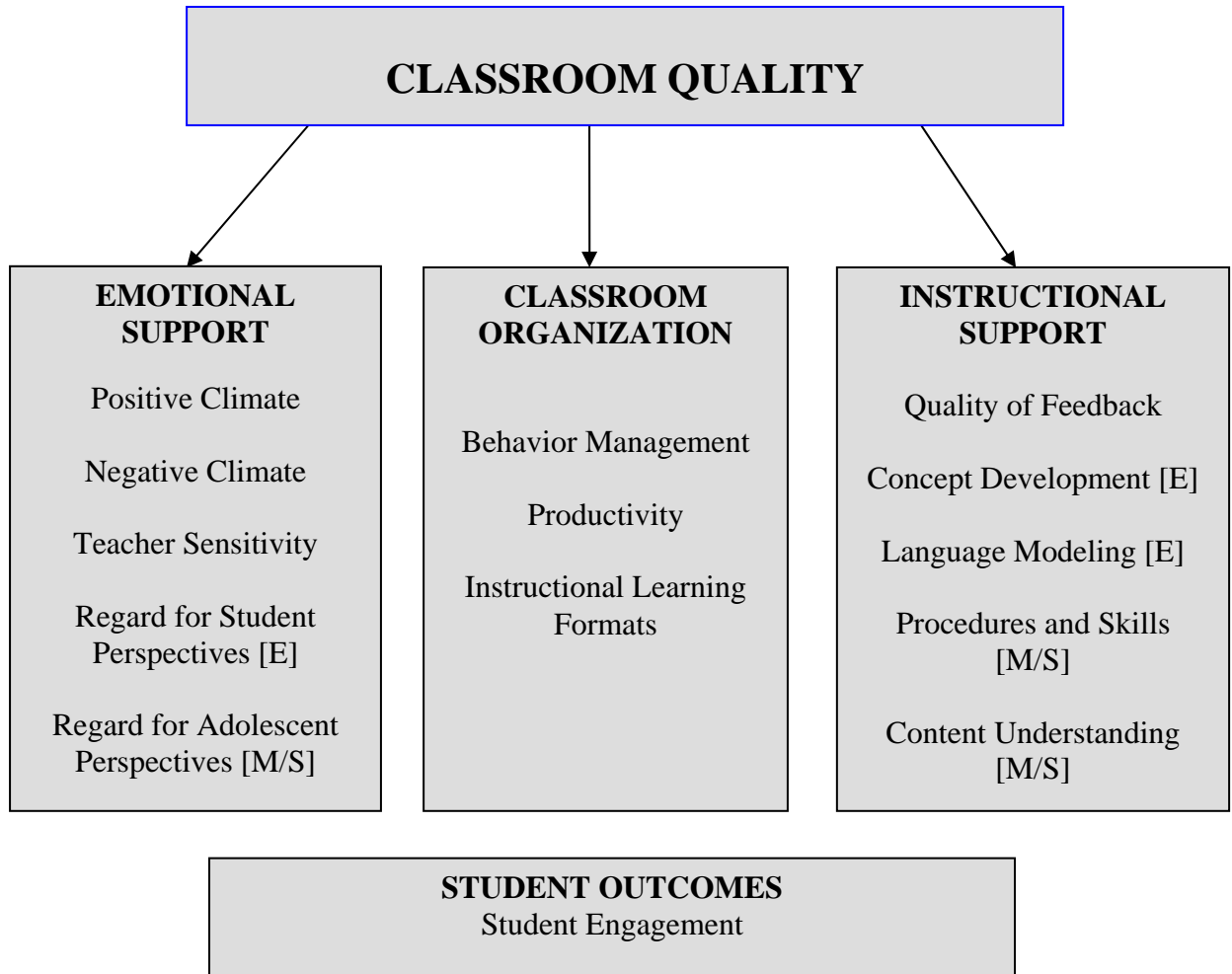


Figure 3. Overview of CLASS Domains and Dimensions.

Content Knowledge for Mathematics Teaching Survey. The Content Knowledge for Mathematics Teaching Survey, used by permission of the School of Education, University of Michigan, comprises items developed by the UM Study for Instructional Improvement, Learning Mathematics for Teaching (LMT), and the Consortium for Policy Research in Education. LMT staff provided training for the use of their instruments.

Two mathematics educators involved in the TQP project² compiled the survey instrument. This instrument was intended for use by both of the field studies, the NTS and

² Diana Erchick and Janet Herrelko

the ExTS, and by teachers across multiple grade levels from multiple preparations in terms of licensure and certification. To meet the needs of the project, the instrument developers chose not to use the full LMT instruments made available by the University of Michigan group and instead chose to compile an instrument to specifically meet the needs of the TQP studies. This decision was based on the following needs:

1. Sensitivity to teacher time constraints, both in terms of their roles as classroom teachers and as participants in our study, required an instrument that could be completed by the teacher in about 60 minutes. The TQP instrument is composed of 20 questions, each expected to take about 3 minutes to complete.
2. The TQP project needed an instrument that included mathematics content across as much of the curriculum as possible. The LMT instruments focused on particular content strands; thus, we would have had to administer multiple surveys to be inclusive of the content.
3. The TQP instrument would be administered to teachers whose teaching experience covered a wide range of possibilities. The LMT instruments were designed for groups of teachers at either the elementary certification or middle school licensure levels.
4. Each of the groups of TQP participating teachers (novice and experienced) comes from a different teacher preparation background. The novice teachers all have licenses that differ significantly from the experienced teachers' certifications, particularly in mathematics content preparation. The preparations also differ within each of the licensure and certification structures, so it was important to design the TQP instrument independent of attention to teacher preparation. Thus, little attention was focused on the difficulty levels of TQP instrument items.

In compiling the items for the TQP instrument, the mathematics educators reviewed the items in the LMT instruments from the University of Michigan and selected items believed to address the five content standards of the National Council of Teachers of Mathematics (NCTM). As noted above, the LMT instruments are not designed to address all content. However, selected items often address content beyond the intended, and from those items, the TQP designers were able to choose items to complete the full range of content areas needed by TQP.

It can be argued that in addition to assessing content knowledge, completion of many of the LMT items also requires use of the mathematical process. Although the LMT project does not claim to address the NCTM's mathematics process standards, the TQP mathematics educators recognized the role of processes in the work needed to complete the LMT items. This recognition was based on the guidance of the Principles and Standards for School Mathematics (NCTM, 2000) document, the Ohio Academic Content Standards, and recent research. In addition to attending to content needs, the mathematics content survey designers attempted to include the full range of process standards in the items chosen for the TQP instrument. The only process standard not well-represented in the TQP instrument is the communication standard. This is primarily because of the nature of the TQP instrument (forced response as opposed to short answer or extended response and written as opposed to oral).

Field notes. During every cycle, the researcher may complete a separate page of field notes. As described in the NTS data collection manual, the field notes give the researcher an opportunity to record whatever is noteworthy during any given visit. Researchers may record both descriptive notes and reflective notes. A descriptive note is a non-judgmental record of an observation. A reflective note is the researcher's explanation of why she made note of a particular observation.

We are in the process of analyzing the data for year 1, described in the next section. We note here that the data collection for year 2 (2007–08) of the NTS follows the same cycle and protocol used in year 1.

Data Analysis

School Physical Environment Checklist. Items on the School Physical Environment Checklist (Yes, No) were entered in a database and frequencies were calculated for each item and for the total checklist score. The results are considered in constructing case studies of high value-added teachers.

TQP Preservice Teacher Survey and TQP Inservice Teacher Survey. For those novice teacher participants who completed the TQP Preservice Teacher Survey during their preservice teacher education program, the Graduate Survey Study research team confirmed that they had the data for those participants. Those novice teachers who had not completed the survey during their teacher preparation program completed a paper copy of the survey, and the NTS team entered the data into a template provided by the Graduate Survey Study team and sent it to The Ohio State University for analysis. Analyses included descriptive statistics (maximum score, minimum score, average score, and standard deviation) on each survey item and the scales. Separate analyses were run for novice teachers completing the TQP Preservice Teacher Survey during their preservice preparation program, novice teachers completing the survey in cycle 1, and the total group. We followed this same process for the TQP Inservice Teacher Survey.

CLASS. CLASS dimension scores for each participant are aggregated into four categories, or domains: emotional support; instructional support; classroom management; and student outcomes. For each CLASS domain, descriptive statistics were calculated that included the minimum score, maximum score, average score, and standard deviation. Descriptive statistics were created for both novice and experienced teachers; separate *t*-tests for equal means were used to determine if the two groups, novice and experienced teachers, are significantly different. In addition, correlation matrices were created to study the relationship among the four CLASS domains.

Content Knowledge for Mathematics Teaching Survey. Descriptive statistics of participant scores were calculated, including the minimum score, maximum score, average score, and standard deviation. Descriptive statistics were created for both novice and experienced teachers' scores, separately.

A *t*-test for equal means was run to determine if the scores on the Content Knowledge for Mathematics Teaching Survey are different for novice and experienced teachers. Finally, for both novice and experienced teachers, the mathematics content knowledge scores were included in the correlation matrices of the CLASS observations.

Post-observation interview data. At the release of this technical report, the TQP researchers were in the process of analyzing the qualitative data from year 1 using widely accepted qualitative data analysis techniques: identifying codes; marking segments of texts with codes; and organizing coded data to determine themes or patterns at more abstract levels of interpretation (Miles & Huberman, 1994; Ryan & Bernard, 2000).

Key personnel of the NTS and ExTS defined an initial set of codes after formatting data from the year 1 post-observation interview for analysis. Codes were post-defined (not specified before or during data collection), a method recommended by many scholars (Anfara, Brown, & Mangione, 2002; Patton, 1990). However, we do note that the research purpose and theories guiding the development of the project, including the interview questions, helped to determine some of the coding categories used before the open coding of transcribed interviews began.

Researchers agreed that the text segments to be coded were a complete turn—the entire text of a question posed by the field researcher and the corresponding teacher participant response. By coding an entire turn, researchers preserved prompts, contextual data, and other information that would help with interpretation.

Field researchers from the NTS and the ExTS met with key personnel from both studies to explore the coding scheme; challenge code use and interpretation; and develop the integrity of the codes. Difficulties in establishing an acceptable level of inter-rater reliability occurred. While the researchers were typically in agreement concerning the use of some codes—resources, standardized test, and instruction, for example—agreement about consistent use of other codes remained elusive. After much discussion, researchers were able to attain a rate of 90% reliability using the Miles and Huberman (1994) equation, agreeing upon a system that used codes as broadly and descriptively as possible. This solution was acceptable because of the use of the qualitative analysis software NVivo. NVivo allows coding at multiple levels, and the 15 codes agreed upon constituted the “parent” codes. The subsequent use of “child” codes assures the research team that the more subtle distinctions in the data would not be lost. In alphabetical order, the 15 codes are: (a) Administration, (b) Classroom Context, (c) Content/Subject Matter, (d) Curriculum, (e) Instruction, (f) No Code, (g) Parents, (h) Planning, (i) Professional Learning, (j) Resources, (k) School Context, (l) Standardized Testing, (m) Student Characteristics, (n) Student Response, (o) Teacher Characteristics. See Appendix I for code book with rules and exemplars.

Field notes. Field notes are being analyzed using the same process developed for the interviews.

Data Management

In this section, we describe the NTS data collection and management process developed in the pilot year 2005–06, refined in year 1 (2006–07), and again refined and implemented in year 2 (2007–08). Each year provided new insights into the needs of the study and how to manage the data to assure complete and high-quality data.

The data collection process involved creating a physical and electronic system at the University of Dayton, Dayton, Ohio. The NTS system development included the combined efforts of the key personnel for the TQP field studies (see footnote 1), NTS field researchers, and the data management team. The systems created included the following:

1. Data collection protocols and tools linked to the research questions and desired outcomes
2. Procedures for using the tools to collect data
3. Regular communications with field researchers
4. Data retrieval processes to ensure complete data sets across the subjects
5. Data storage designed for accessibility, security, and analysis
6. A system of communication to facilitate using the data for analysis and to ensure data integrity

Data were collected by a group of NTS field researchers. To guide the process of data collection, the TQP team developed data collection protocols, or procedures, that accompanied each data source described in a previous section. We reviewed these procedures at monthly meetings of the TQP PIs and during regular training sessions with the field researchers. Through regular e-mail communications we clarified procedures and other matters as questions arose.

The NTS team compiled a data collection manual, which contained all protocols and instruments arranged by cycle. The manual provided explicit directions for the field researchers, thus ensuring consistent data collection across all teacher participants. During 2006–07, the NTS research group³ began meeting regularly at the University of Dayton to discuss data collection progress, review teacher interview data samples, consider suggestions to streamline data collection, and discuss issues relevant to the data collection process. Out of these meetings came significant refinements to the data management process, including creating a framework for labeling the CLASS observation segments, establishing guidelines to enhance the quality of field notes and interview data, and creating a consistent file identification system. The meetings further built the trust and camaraderie of the study group and allowed for discussion of more sensitive issues such as the researcher-participant relationship and requests by the teacher participants for feedback on the observed instruction. The data collection experiences of NTS year 1(2005-06 led to several refinements in NTS year 2 (2007–08).

For each data collection cycle, the field researcher is provided a cycle checklist, indicating the data to be collected that cycle and the specific tasks to be accomplished. The checklist is a tool for the field researchers to determine that the appropriate data are collected, surveys are distributed for collection in the next cycle, or upcoming visits are scheduled. Each data source is submitted on a form that supports systematic recording and retrieval of data for analysis. Researchers are also provided electronic and hard copies of all forms.

The NTS project office created systems for filing electronic records and hard copies to ensure secure storage and retrieval of the data. The electronic records are maintained on a separate password-protected computer drive accessible to the PI and the NTS project office staff. The drive is backed up weekly using an external hard drive.

The electronic record-keeping system is composed of a teacher database; individual teacher folders containing a separate folder for each cycle and all submitted data by cycle; an individual teacher data-tracking sheet; and a comprehensive data-tracking sheet containing confirmation on data collected for each teacher by cycle. A systematic process for recording submitted data includes verifying the data by matching teacher ID number, field researcher

³ K. Kinnucan-Welsch, PI; field researchers: P. Ellis, D. Frank, K. Pareso, B. Shervey; data manager: C. Currell.

ID number, data and form for submission, cycle number, and data collected. If there were any issues pertaining to the data, such as missing ID number, incomplete data, etc., the data manager communicated with the field researcher and resolved it. Data were then filed, hard copy and or electronically. The NTS project staff conducted two formal data audits and ongoing informal data audits to ensure that the appropriate data were submitted, received, and recorded. Personal identifying data such as teacher name, school, individual students, principal, or other educators in the building are omitted from all NTS data.

In order to provide a consistent reference for all data, the following naming logic is used: Teacher ID number_cycle number_form number_date data were collected.

This logic was particularly important with the CLASS observations and the post-observation interview. Researchers identified CLASS segments in relation to the groups of students being observed. For example, each 20-minute CLASS observation segment ID number includes the teacher ID number, the subject observed (reading or math), and an indication of when the group of students changes. A CLASS observation with the file name NT07-015_cy2_form 7b_9.25.07_M1 signifies the following: Data collected are from returning novice teacher number 015, who began participating in the study in the 2006–07 school year. The data collection cycle is cycle 2. The data collected are the CLASS notes observation data for secondary students. The CLASS observation took place on September 25, 2007. This file contains the observation data for math class segment M1.

Since the pilot year in 2005, the NTS group has used a process of shared learning and experience from the field to guide the development of the systems currently in place. The current system is a result of ongoing analysis of data quality, and the entire NTS research team has contributed to the improvements in the system from the pilot year to date.

Dissemination

The progress of the NTS, including refinement of the research questions and methodology, has been presented annually to the TQP external audit panel and semi-annually to the Ohio advisory board. Preliminary findings from the pilot year data were presented at several regional and national conferences, including the American Association of Colleges of Teacher Education (AACTE); Battelle for Kids Power of Two; Ohio Confederation of Teacher Education Organizations; REL Midwest board in Chicago; Kentucky Association of Colleges for Teacher Education; New Teacher Conference sponsored by the Ohio Department of Education with funding from the Joyce Foundation; and the Holmes Conference.

A series of technical reports is scheduled for release in 2007–08, beginning with this report summarizing the background and research. Publications drawn from the technical reports will be submitted to peer-reviewed journals in 2008.

REFLECTIONS ON THE METHODOLOGICAL ISSUES AND CHALLENGES

We have encountered several challenges in the NTS research. Many of these challenges are being noted by others attempting to examine teacher quality from a complex perspective [see themed issues Evidence, Efficacy, and Effectiveness, *Journal of Teacher Education*, 57(1), 57(2)], We discuss the following in our concluding remarks: recruiting;

quality of data; and building converging evidence through use of common instruments for data collection.

Recruiting

As noted in a previous section of this report, recruiting novice teachers has posed many challenges. Many stakeholders are supportive and involved in the process, including TQP institutional representatives and field office directors at Ohio institutions of higher education; Ohio Department of Education personnel; and regional and local school district administrators and human resources personnel. One dilemma is that schools are not required to submit lists of entry year teachers to the Ohio Department of Education until well into the school year, thus eliminating what would otherwise be a comprehensive list from which to locate teachers. The issue here is not that we don't have the list; it is that it is important to collect data on the novice teachers at the beginning of the school year, and the list is not available at that time.

Local district administrators and human resources personnel have been essential to our recruiting efforts. We have been most successful in those districts where the lead universities in the project (the University of Dayton, the University of Cincinnati, Wright State University, The Ohio State University, and Mount Vernon Nazarene University) have established relationships with the administrators. Field studies such as the NTS require researcher access, and personal contact is certainly one avenue to gain that access. The negative impact is that participants tend to be recruited from districts strongly affiliated with the universities, which could have an influence on the school context in which the novice teachers are working. Actions we are taking to support our recruiting include more exposure of the research project to local districts and tighter connections with the Ohio Department of Education.

Quality of Data

The NTS is one strand of a complex, large-scale study. The NTS study is a subset of the Large-Scale Longitudinal Study, in which teacher preparation, teacher characteristics, and instructional practices are linked to teacher quality through structural equation modeling. It is essential that we follow data collection, storage, and retrieval processes that assure high-quality data for both the NTS and the LSLS while maintaining confidentiality of participants per institutional review board assurances. The data management processes necessary to meet these requirements are resource-intensive—an issue that must be considered in allocating funds for the research.

The training requirements and ongoing contact with the field researchers are also worth noting. We decided early in the study that it was important to have the researchers in close proximity to the University of Dayton so that regular contact with the principal investigator was feasible. This choice confirmed the decision to recruit in an area close to the University of Dayton, and as mentioned in the section on recruiting, this limited the geographic region from which participants are drawn.

Creating Opportunities for Converging Evidence

The TQP research team made a decision to use two instruments that had been developed and used in previous research: the CLASS and the Content Knowledge for Mathematics Teaching Survey. The Graduate Survey Study also incorporated previous instruments into the TQP Preservice Teacher Survey and TQP Inservice Teacher Survey. By building on previous work, educational researchers, when appropriate, will be able to connect research findings across studies. This will support a deepening knowledge base on teaching and teacher education, a need highlighted by educational researchers, policymakers, and the public.

To conclude, the information contained in this technical report provides details about the design and methodology of the NTS. It is our intent that stakeholders will find this information useful when reviewing TQP research reports and considering policy implications that emerge from the TQP research.

References

- Anfara, V. A., Brown, K. M., & Mangione, T. L. (2002). Qualitative analysis on stage: Making the research process more public. *Educational Researcher*, 31, 28–38.
- Lasley, T. J. II, Siedemtop, D., & Yinger, R. (2006). A systemic approach to enhancing teacher quality: The Ohio model. *Journal of Teacher Education*, 57, 13–21.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA: Author.
- NICHD Early Child Care Research Care Network (200). The relation of first grade classroom environment to structural classroom features, teacher, and student behaviors. *The Elementary School Journal*, 102, 367 – 387.
- Patton, M. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage Publications.
- Pianta, R. C. (2004). *Classroom assessment scoring system [CLASS]*. Charlottesville, VA: University of Virginia.
- Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2006a). *Classroom assessment scoring system manual: K–3 version*. Charlottesville, VA: Center for Advanced Study of Teaching and Learning.
- Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2006b). *Classroom assessment scoring system manual: Middle/secondary version*. Charlottesville, VA: Center for Advanced Study of Teaching and Learning.
- Ryan, G. W. & Bernard, H. R. (2000). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 769–802). Thousand Oaks, CA: Sage Publications.
- Theroux, K. (2007) A timeless university trains teachers for a new era. *Carnegie Reporter*. Carnegie Corporation of New York. Article retrieved October 6, 2007, from the Carnegie Corporation of New York Web site: E:\CLASS\Carnegie Reporter, Vol_ 4, No_ 2 A Timeless University Trains Teachers for a New Era, page 5.htm
- Yinger, R. (2005). *Teacher quality partnership: General proposal narrative*. Unpublished manuscript, University of Cincinnati.

APPENDIX A

Teacher Quality Partnership: Novice Teacher Study Novice Teacher Consent Form 2007-2008

Dear teacher participant:

Thank you for agreeing to participate in the Novice Teacher Study. The purpose of this study is to understand the practice of beginning teachers, and the factors influencing that practice. We recognize the challenges facing entry-year teachers, and we have structured data collection to minimize intrusion as much as possible. A complete list of the data collection cycles is attached to this consent form. If you agree to participate, please read the information below, sign, and return to your field researcher. Thank you for contributing to the profession of teaching.

Name: _____ School: _____

TQP Agreement:

1. Maintain complete confidentiality. All reports will be summary data only. At no time will any teacher or school be identified.
2. Arrange the interviews and observation at a time and days that are convenient to the teacher.
3. Pay teacher participants \$300 (year 1), \$500 (year 2), \$700 (year 3) when the agreement has been completed.

Teacher Agreement:

- _____ I commit to collect data for the Novice Teacher Study. I understand that I:
- Must participate in 6 data collection cycles between September, 2007 and June, 2008. These cycles include observations of teaching with the CLASS observation protocol and post-observation interviews following the observations.
 - Complete all surveys that have been approved for use in the study, including the TQP Inservice Teacher Survey.
 - I recognize that the data collected in the Novice Teacher Study will be used for the purposes of the research only. When the analyses of the data are conducted, the identity of the participants will remain confidential to the Principal Investigators and field researchers, and will not be revealed in any reports of research or to anyone outside of the study.
 - Participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled, and I may discontinue participation at any time without penalty or loss of benefits to which I am otherwise entitled.
 - I should contact the Principal Investigator, Dr. Kathryn Kinnucan-Welsch, at Katie.Kinnucan-Welsch@notes.udayton.edu for answers to questions about the research.
 - I should contact for questions about my rights as a subject or in the event of a research-related injury to the subject, Mr. Jon Nieberding, University of Dayton Institutional Review Board Chair, at (937) 229-4053.

I, _____, agree to participate in the Novice Teacher Study.
(Print Name)

Teacher's Signature

Date

Principal Investigator Signature

Date

APPENDIX B

CONSENT TO PARTICIPATE IN A RESEARCH STUDY – NOVICE TEACHERS

University of Cincinnati
College of Education / Department of Educational Leadership
Suzanne Franco, Ed.D.
937-775-3673 (Suzanne.franco@wright.edu)

- Title of Study:** TQP Large-scale Longitudinal Study of Novice Teachers
- Purpose of Study:** To better understand the aspects of teacher preparation and early career support that help new teachers be successful in teaching math and/or reading to elementary and middle school children.
- Participants:** Any new teacher of 4th, 5th, 6th, 7th, or 8th grade mathematics in an Ohio school who has just graduated from an Ohio teacher preparation program (not an alternative license program).
Any new teacher of 4th, 5th, or 6th grade reading in an Ohio school who has just graduated from an Ohio teacher preparation program (not an alternative license program).

By signing below, I am agreeing to participate in the Teacher Quality Partnership “Large-scale Longitudinal Study” of new teacher preparation and support in Ohio. I have read and understand the **Research Information Sheet – Teachers** provided by Dr. Ted Zigler, researcher, on behalf of Dr. Suzanne Franco, the leader of the study.

I understand that everything that I do with this study will be kept strictly confidential, that all surveys and information about me will be coded to avoid identification, and that all records (including this consent form) will be stored in locked cabinets and facilities at the University of Cincinnati throughout the period of the study, and for two years afterward.

I understand that I am not obligated to the study in any way, and may leave the study at any time, with or without giving a reason.

I understand that if I have any questions about study-related activities, I can call Dr. Suzanne Franco, Ed.D. 937-775-3673 or email her at Suzanne.franco@wright.edu. If I have questions about my rights as a research participant, I know that I can call the Chair of the Institutional Review Board – Social and Behavioral Sciences at (513) 558-5784.

I understand that my participation in this research study will be for three years (unless I should stop teaching in Ohio), and that I will be asked to complete a survey and to confirm my students in each of those three years. These activities will only take me about an hour total each year. There are no alternative activities; if I cannot complete the regular study activities, I can opt to leave the study.

Finally, **I understand that there are no expected risks or benefits to me personally** from participating in this study. If I am interested in finding out about the study progress, I know that I can check the study website at www.tqpohio.org for regular reports.

Study Participant / DATE

Witness / DATE

APPENDIX C

Cycles at a Glance
TQP Novice Teacher Study NT - 08

2007-08	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Cycle 6
Timeframe to complete data collection	before start of / or early in school year 2007	mid-Sept to early Oct 2007	early to mid-Nov 2007 (>=10 days prior to Thanksgiving)	Feb-08	April 2008 after spring break	within the last 2 weeks of school
Focus of Cycle	Setting stage for data collection - initial building visit.	One (1) day of CLASS observation and teacher interviews	One (1) day of CLASS observation and teacher interviews	One (1) day of CLASS observation and teacher interviews	One (1) day of CLASS observation and teacher interviews	Final visit and conclusion of study school year
Data Collection Protocols and Tools	Initial Teacher Meeting and Interview 1a Text Entry Form form 1b	CLASS Notes Sheet form 7 CLASS Submission form 8	CLASS Notes Sheet form 7 CLASS Submission form 8	CLASS Notes Sheet form 7 CLASS Submission form 8	CLASS Notes Sheet form 7 CLASS Submission form 8	Final Visit protocol 14 Collect final data. Gain teacher sign off on Data Checklist. form 15
	NTS Informed Consent form 2 LSLS Informed Consent (UC form)	Post-observation Interview 9a Data Entry form 9b	Post-observation Interview 9a Data Entry form 9b	Post-observation Interview 9a Data Entry form 9b	Post-observation Interview 9a Data Entry form 9b	Collect Intent to Participate and Summer Contact information form 16
	School Physical Environment Checklist form 4	Field Notes Text Entry Form 3b	Field Notes Text Entry Form 3b	Field Notes Text Entry Form 3b	Field Notes Text Entry Form 3b	Field Notes Text Entry Form 3b
	Teacher Profile form 5				Distribute TQP Inservice Teacher Survey form 12	Collect TQP Inservice Teacher Survey form 12
	Verify if teacher completed TQP Preservice Teacher Survey at IHE form 5	Distribute TQP Preservice Teacher Survey to those w/o confirmed survey protocol 6	Collect TQP Preservice Teacher Survey from those given in Cycle 2 protocol 6	Distribute Content Knowledge for Mathematics Teaching Survey form 11	Collect Content Knowledge for Mathematics Teaching Survey form 11	
	Schedule date for C 2	Schedule date for C 3	Schedule date for C 4	Schedule date for C 5	Schedule date for C 6	FR Submit all data to Project Office. PI sign off for FR payment form 18

APPENDIX D



NTS Data Collection 2007-08
Teacher Profile
Cycle 1

Last Name: _____ School: _____

First Name: _____ District: _____

DOB: _____ / _____ / _____ Current teaching assignment by grade level and subject:

Grade Level: _____ Subject: _____

Grade Level: _____ Subject: _____

SSN: _____ Grade Level: _____ Subject: _____

**Note: all identifying information will be kept in locked files and will only be used for obtaining study data from ODE and to make stipend payments.*

Email at school: _____

School phone: (____) _____ School fax : (____) _____

Home mailing address: _____

Home Email: _____

Phone: cell (____) _____ home (____) _____

Licensure:

- ____ Early Childhood Education (ECE)
- ____ Middle Childhood Education (MCE)
- ____ Adolescence Young Adult (AYA)
- ____ Intervention Specialist (IS)
- ____ Other: please describe: _____

Name of licensure granting institution: _____

Date of completion of licensure: _____ / _____ / _____

Weekly Schedule – Sample to assist in scheduling school visits and observation.

Note: This schedule is for Field Researcher to keep for own reference.

Time	Monday	Tuesday	Wednesday	Thursday	Friday

Contact Notes:

APPENDIX E

School Physical Environment Checklist

NT08-Cycle 1

Teacher ID #: _____ Field Researcher ID #: _____

Time of Visit _____ Date of Visit _____

Physical Environment			
	Yes	No	Comments
Signs giving clear directions to the main office are posted near the front entrance and at other entrances.			
A welcome sign is displayed near the entrance.			
There are clear directions for all visitors to sign in at the office and obtain a building pass.			
There is a bulletin board on which parents and parent organizations post and receive news and announcements.			
Bulletin boards and displays throughout the building are student-oriented, colorful, and well-maintained.			
There is a place where visitors can comfortably sit to chat, read available resources, prepare materials for teachers, etc.			
The building and grounds are clean and in good repair.			
During periods when groups of children are in the hallways, there is evidence of respect.			
The measures of security are appropriate.			
Welcoming School Staff			
The office staff greets visitors quickly with a smile and in a friendly, courteous, way.			
Staff members passing in the hall acknowledge visitors with a smile, a nod or a hello.			

School Physical Environment Checklist

NT08-Cycle 1

Parents are visible in the school building.			
Written Materials			
	Yes	No	Comments
All printed materials are clear and understandable to someone who is new to the school.			
A variety of school programs are highlighted, including special education, music programs, general education, English as a Second Language, etc.			
There is obvious collaboration with the school's PTA and other parent groups.			
There is obvious collaboration with the community.			
Photographs and articles highlight the diversity of the student body.			
Student work is highlighted in the publications.			
The school's educational and extra-curricular programs are explained.			
Translated publications are readily available and distributed to families who have been identified as needing them.			
The printed materials use a font that is easy to read and the format is neat and clean.			
The school's website is accurate, updated and provides useful information to families and students. (Homework information, school calendar, etc.)			

School Physical Environment Checklist

NT08-Cycle 1

Please record and submit responses to following two questions on the field notes data entry *form 3b*.

1. Summarize your impression of the atmosphere of this school.

2. Are there other comments you would like to add?

This list was modified extensively from the Fairfax (Virginia) County Public Schools' Parenting Education Center (PEC) *Welcoming Atmosphere Walk-Through Checklist*.

APPENDIX F

CLASS Observation Record – Elementary

CLASS Notes Sheet
TQP Data Collection NT08 (2007-08)

Teacher ID #: _____ Date of Observation: _____ Cycle #: _____

Field Researcher ID
#: _____

No. Adults in Room: _____ Use for Post-Ob Interview ☐

Segment #: _____

Time of Segment (start/end): _____ / _____

File Name#: _____

Briefly describe what was happening in the classroom during this segment.

Positive Climate	Evidence <i>Mark "x" next to desired score</i>	Score
<ul style="list-style-type: none"> Relationships Positive affect Respect Positive peer interactions 		1 2 3 4 5 6 7
Negative Climate	Evidence	Score
<ul style="list-style-type: none"> Negative affect Punitive control Sarcasm/disrespect Negativity not connected to events Negativity escalates Severe negativity 		1 2 3 4 5 6 7
Teacher Sensitivity	Evidence	Score
<ul style="list-style-type: none"> Responsiveness Notices when students need assistance Appropriate activities Addresses problems Students seek support Student comfort 		1 2 3 4 5 6 7
Regard for Student Perspectives	Evidence	Score
<ul style="list-style-type: none"> Flexibility and student focus Support of autonomy Student expression Student responsibility Peer interaction encouraged Restriction of movement 		1 2 3 4 5 6 7
Behavior Management	Evidence	Score
<ul style="list-style-type: none"> Proactive Monitoring Redirecting misbehavior Clear behavioral expectations Loss of time Effective praise Student misbehavior 		1 2 3 4 5 6 7

Productivity	Evidence	Score
<ul style="list-style-type: none"> • Provision of activities • Routines • Transitions • Preparation • Disruptions • Managerial tasks 		1 2 3 4 5 6 7
Instructional Learning Formats	Evidence	Score
<ul style="list-style-type: none"> • Utilization of materials • Student engagement • Clarity of learning objectives • Teacher facilitation • Modalities 		1 2 3 4 5 6 7
Concept Development	Evidence	Score
<ul style="list-style-type: none"> • Higher order thinking and cognition vs. rote learning • Analysis and reasoning • Hypothesis testing • Integration with previous concepts • Connections to the real world 		1 2 3 4 5 6 7
Quality of Feedback	Evidence	Score
<ul style="list-style-type: none"> • Process of feedback • Feedback loops • Specific feedback • Providing hints 		1 2 3 4 5 6 7
Language Modeling	Evidence	Score
<ul style="list-style-type: none"> • Frequent conversation • Student-initiated language • Open-ended questions • Repetition and extension • Self and parallel talk • Advanced language 		1 2 3 4 5 6 7
Student Engagement	Evidence	Score
<ul style="list-style-type: none"> • Active vs. passive engagement • Sustained engagement 		1 2 3 4 5 6 7

APPENDIX G

CLASS Observation Record – Secondary

CLASS Notes Sheet - TQP Data Collection NT08 (2007-08)

form 7b

Teacher ID#: _____ Date of Observation: _____ Cycle #: _____

Field Researcher ID#: _____ No. Adults in Room: _____ Use for Post-Ob Interview ☐

Segment #: _____

File Name: _____ Time of Segment (start/end): _____ / _____

Briefly describe what was happening in the classroom during this segment:

Positive Climate	Evidence	Mark "x" next to desired score	Score
<ul style="list-style-type: none"> Relationships Positive affect Positive peer interactions Interest in students' lives 			1 2 3 4 5 6 7
Negative Climate	Evidence		Score
<ul style="list-style-type: none"> Negative teacher affect Punitive control Negative student behavior toward peers and teacher(s) Teacher response to student discriminatory/inflammatory behavior 			1 2 3 4 5 6 7
Teacher Sensitivity	Evidence		Score
<ul style="list-style-type: none"> Anticipation of and responsiveness to students' academic/social/emotional needs and cues Notices when students need assistance Effectiveness in addressing problems Students' comfort in seeking support and participating 			1 2 3 4 5 6 7
Regard for Adolescent Perspectives	Evidence		Score
<ul style="list-style-type: none"> Opportunities for decision-making Relevance-Usefulness/connection to current life Attention to ST ideas/opinions Meaningful peer interactions Student action options 			1 2 3 4 5 6 7

Behavior Management	Evidence	Score
<ul style="list-style-type: none"> • Proactive • Clear behavioral expectations • Monitoring • Redirecting misbehavior • Loss of time • Effective praise • Student misbehavior 		1 2 3 4 5 6 7

APPENDIX H

Post-observation Interview

Background Notes to Field Researcher

The purpose of this interview is to gain insight into the teacher's professional practice by inviting him or her to reflect on a teaching episode he or she has just completed and you have just observed. Specifically, we are interested in understanding ***teacher practice*** in the post-teaching context. The interview should produce expanded account field notes that provide deep insight into the above.

- Please audiotape the interview. Save the audio file using the audio file save procedures. Submit the Word document from your own transcription of this interview according to the electronic data submission procedures. Check to make sure you have **adequate battery power** and **good sound levels** on your recorder before beginning the interview. Periodically check the recorder to make sure you are still recording. Also be sure you are recording in a digital file that has **adequate space** to record the interview.
- As the teacher's responses unfold, whenever possible, probe as to **where he or she learned how to do the things he or she is describing**.
- IMPORTANT: This is a semi-structured interview protocol. As you listen to the subject's responses, be prepared to use secondary prompts like the ones listed below to elicit additional explication of the phenomenon of interest.
- You will focus on one lesson for your interview. Give your teacher the opportunity to suggest which lesson he/she would like to talk about. If there is no preference, be prepared to select one and state your reason why in your field notes.

Possible Field Researcher introduction:

I would like to begin with the reminder that the purpose of this interview is not to evaluate you, but instead to simply try to better understand teacher practice and where you learned about your practice with regard to the observed lesson. Any details you can share regarding your role in the lesson and the performance of the students would be most helpful.

Question #1:

Ask the teacher if there is a lesson he/she would like to talk about. If not, identify a lesson you would like to talk about.

Think about the focus of this lesson (specify which lesson) I observed. How do you think it went?

Question #2:

How did the students respond to this lesson?

Prompts:

Did the students learn what you were trying to teach them?

If they respond “yes,” “no,” or “some of them learned,” probe: How could you tell? What makes you think so? Tell me more about that.

If they respond “I don’t know,” probe again: What makes you unsure? Tell me more about what you are thinking here. . .

Question #3

What decisions did you make during the course of the lesson?

Prompts:

What prompted this (these) decisions?

Probe for specifics here, there may have been multiple decisions and different reasons for each of the decisions made during the lesson.

Were there any surprises in this lesson? Things you did not anticipate?

Did you do anything you didn’t plan?

Question #4

Talk a little bit about the materials and classroom resources you used in this lesson.

Prompt:

Is there anything you did not have that you wish you would have had?

Question #5

Where did you learn the most about how to teach this lesson(s)?

Prompt:

Probe to see how the teacher learned about the content that was taught and the strategies used to teach the lesson.

Question #6 (If teacher identified the lesson for interview, then ask this question.)

Now that we have talked about this lesson, tell me why you selected it.

General prompts that can be used at any time during the interview process:

- Tell me a little bit more about that . . .
- What do you mean by that . . . ?
- Can you give me an example of what you mean here . . . ?
- Can you expand on what you mean by that comment . . . ?

Reminder: We want to utilize the interview to better understand the participants' views on the various topics. We want to learn from them. The researcher's job is to probe without leading the response of the participant.

When you transcribe the interview, add a final section of your own field notes.

Answer these questions:

1. Provide the details about the lesson on which the interview is based, including subject, time of day, segment number(s), and any other contextual information that would shed light on understanding the teacher's responses.
2. If you selected the lesson rather than the teacher, why did you select the specific lesson as a focus for the interview?

Thank you, and interview concluded.

APPENDIX I

Novice Teacher Study
Codebook

	Category (Parent)	Code	Rules	Exemplars
1.	Administration	ADM	Any comment about administration, district, authority (e.g. relationship with teaching staff, attitudes about testing, etc.)	The principal, the taught language arts last year. He's helped me a lot with that. [NT07-003-R2: 9 Feb 07] [A]nd when one of the teachers are absent here, many times--probably most of the time—they don't bother getting a sub. [NT07-013-M1: 9 March 07]
2.	Classroom Context	CC	Any comment specifically related to classroom environment, context, etc.	The first class just kind of...I wasn't expecting so many kids to get pulled out in the middle like that. [NT07-019M1 & M2: 4 April 07]
3.	Content/Subject Matter	CON	Any comment related to the content. <i>Does not include passing reference to math or reading.</i>	Some of the material that we've covered already, like Pythagorean Theorem and surface area and volume, [NT07-001-M2: 1 Dec 07] <i>I love math so if I put enthusiasm in it then they will catch on pretty quickly.</i> [NT07-015-M1; 26 Dec 2006]
4.	Curriculum	CUR	Framework for instruction and external expectations for learning (e.g. District Pacing Guide, Ohio Academic Content Standards, etc.	It's aligned with the national standards as opposed to Ohio standards. [NT07-002-M2: 31 Oct 06]
5.	Instruction [now includes differentiation, assessment and management]	INS	Any comments related to teacher's instruction, instructional methodology, what was done in the observed lesson, what has been done in previous lessons, and/or hypothetical comments about what could be done. Indicates action as compared to orientation to action, which is Teacher Characteristics.	We have been working a long this week on text connections and to teach I like to review the strategies and so we started with that just text connections. [NT07-033-R1 & R2: 12 Jan 07] So that was one thing I tried to clear up in the first class but made sure I explained it differently in the second class when I was actually up in front of them, just making decisions on how much time to spend on one thing or the other, where the problems were, what they already knew. [NT07-019-M1 & M2: 6 Dec 06]
6.	No Code	NC	For any turn with no associated codes.	Is this the first time this year that they've seen that? Yes. [NT07-017-M1: ND]

	Category (Parent)	Code	Rules	Exemplars
7.	Parents	PAR	Any comments about parents (e.g. activity, access, interest, etc.)	I don't use the same question as the achievement test because we do have a parent that comes in and does achievement test questions. [NT07-002-M1: 11 Dec 06]
8.	Planning	PLAN	Comments on planning (e.g. decisions that are made in advance of the lesson, how a specific lesson is composed, how materials were chosen or designed, etc.), including the question.	It went, it went pretty much to plan. I guess with every lesson you just see how well they're understanding it. [NT07-021-M3: 15 Dec 06]
9.	Professional Learning [includes collaboration and education in content area]	PL	Any comment about learning experiences, professional development, attitudes about professional learning, etc. Includes statements about background knowledge in content area.	She was actually in my, my, and the person that I student taught with last year. [NT07-021-M3: 15 Dec 06]
10.	Resources	RES	What was used that day to teach the lesson (e.g. textbook, manipulatives, technology, teacher generated materials, etc.). Can refer to materials used to teach any lesson.	Basically over the past 3 days, we've been, this is a 3-day lesson we've been talking about percent and the previous day we actually got toilet paper rolls out and we had beans. [NT07-021-M3: 15 Dec 06]
11.	School Context	SC	Any comment related to the school profile (e.g. collective dispositions, attitudes, etc. or temporary conditions (snow days, etc.), physical environment, etc.)	We have, we have a chart for the school building which tells me what standard I'm teaching what week and summarizing is what we're doing actually. [N07-012-M: 6 Nov 06]
12.	Standardized Testing	ST	Standardized testing comments (e.g. Ohio Achievement tests, TERRA Nova, district short-cycle quarterly assessments, etc.) Does not include assessment at classroom level embedded within instruction cycle.	Well, then I realized that during their standardized tests, they'll have a prime factorization problem and they couldn't do it. [NT07-031-M1& M2: 1 Feb 07]
13.	Student Characteristics	STC	Any comments characterizing students: i.e. demographics, dispositions, attributes, student learning, learning styles, or reference to prior knowledge. Excludes student response to teacher action.	So, I have students who are firecracker with math-- they get it and they go and they can be done, and I have some that take a couple of days. They have to really marinate with it.[NT07-028-M1: 4 Dec 06]
14.	Student Response	STR	Any comment about student response—cognitive, affective, behavioral—to teacher action. Includes student learning and student engagement. Refers to specific context. Not a general statement.	I find that if I assign them for homework or even during the class day using a pencil and paper, I don't have a lot of participation, we don't accomplish a lot. [NT07-012-M: 14 March 07]

	Category (Parent)	Code	Rules	Exemplars
15.	Teacher Characteristics	TC	Comments about the teacher himself/herself (e.g. Identity, dispositions, attitudes, assumptions, affective response (surprise, annoyance, pleasure, etc.) Teacher as referent. Indicates orientation to action. <i>Excludes observations about others ("I think," "I feel")</i>	It's not bad enough for me to give them a demerit, but it's just one of those things that's really annoying to me. [NT07-002-M2: 23 Feb 07] <i>I thought it went much smoother.</i> [NT07-028-M1: 30 March 07]